

Claims

- [c1] 1.A bag presenter apparatus for use to present a bag for filling by a packaging machine, the bag including a first side panel and an opposite side panel and the packaging machine having a filling station including a filling chute and a filled bag conveyor, the bag presenter apparatus comprising: a bag gripper for holding the bag to be filled by the packaging machine relative to the filling chute of the packaging machine such that materials from the chute can be introduced to the bag and the bag gripper configurable to hold the first side panel of the bag and in a position conducive to engagement of the bag by the filled bag conveyor of the packaging machine.
- [c2] 2.The bag presenter apparatus of claim 1 being a stand-alone unit and being mountable relative to the filling chute of a wicketed bag-packaging machine.
- [c3] 3.The bag presenter apparatus of claim 1 being a stand-alone unit positionable in the wicket pin area of the bag-packaging machine when the wicket pins have been moved out of the way.
- [c4] 4.The bag presenter apparatus of claim 1 wherein the

bag gripper is configurable to hold the bag such that the filled back conveyor can engage the bag for conveyance in a manner substantially similar to a bag held by wicket pins.

- [c5] 5. The bag presenter apparatus of claim 1 wherein the bag gripper includes a pair of spaced apart gripping pinchers selected to grip a first side panel of the bag to be filled at two spaced apart fixed points.
- [c6] 6. The bag presenter apparatus of claim 1 wherein the bag presenter moves a bag along a substantially uniform direction from a bag supply area to the bag gripper.
- [c7] 7. The bag presenter apparatus of claim 1 further comprising a conveyor for moving the bag from a supply area toward the bag gripper, the conveyor including a belt and a bag orientating device acting relative to the belt to ensure appropriate bag orientation in the conveyor.
- [c8] 8. The bag presenter of claim 1 wherein the bag orientating device includes a stop mechanism, selected to stop advancement of a bag moved by the belt and to orient the bag relative to the belt direction of travel.
- [c9] 9. The bag presenter of claim 8 wherein the stop mechanism is movable into and out of an operable position to

stop advancement of a bag.

- [c10] 10.The bag presenter of claim 9 wherein the stop mechanism can be driven to extend through and to retract from, a drive surface plane defined by the surface of the belt.
- [c11] 11.The bag presenter of claim 1, the conveyor further comprising a bag opening mechanism including engaging devices selected to engage the side panels of the bag and pull them apart.
- [c12] 12.The bag presenter of claim 11 wherein the bag opening mechanism includes a sensor for detecting a non-opening bag.
- [c13] 13.The bag presenter of claim 1 further comprising a bag handler for carrying a bag from the conveyor to the gripper.
- [c14] 14.The bag presenter of claim 13 wherein the conveyor is selected to move a subsequent bag into position for moving to the gripper when the bag handler is carrying a first bag from the conveyor to the gripper.
- [c15] 15.The bag presenter of claim 8 wherein the bag handler is an arm moveable between the conveyor and the gripper and moves to pull the bag upwardly into position for

engagement by the gripper.

- [c16] 16.The bag presenter of claim 1 further comprising a bag feeder for moving a bottom bag from the bag supply to the conveyor.
- [c17] 17.The bag presenter of claim 1 wherein the conveyor is expandable to adjust for various bag widths.
- [c18] 18.A bag presenter for moving a bag from a bag supply to a packaging machine filling station, the bag presenter comprising: a bag supply holding area, a gripper for holding a bag in the filling station and a bag handler for moving the bag from the holding area toward the gripper, the bag handler including a bag opening mechanism and a means for maintaining a bag in an opened configuration once opened.
- [c19] 19.The bag presenter of claim 18 wherein the bag handler further comprising a bag opening mechanism including engaging devices selected to engage the side panels of a bag and pull them apart.
- [c20] 20.The bag presenter of claim 19 wherein the bag opening mechanism includes a sensor for detecting a non-opening bag.
- [c21] 21.The bag presenter of claim 18 wherein at least one of

the bag opening mechanism or the means for maintaining a bag in an opened configuration comprises an air jet device for directing a jet of air into the bag.

[c22] 22.The bag presenter of claim 21 wherein the air jet device is mounted on a bag-engaging device.

[c23] 23.The bag presenter of claim 22 wherein the means for maintaining the bag in an opened configuration is a gripping device selected to grip a side panel of the bag and to extend between the side panel and an opposite side panel of the bag tending to hold the side panels apart.